

ART 34 AMDT

C L A I M S

Sub A1

5        1. (amended) A cleaning solution for removing a byproduct derived from a decomposed substance of a process gas containing C and F, and deposited on a component in a process chamber of a semiconductor processing apparatus for subjecting a target substrate to a semiconductor process with the process gas, the cleaning solution containing N-methyl-2-pyrrolidone, ethylene glycol monobutyl ether, and a surfactant, with an alkali metal content of less than 10 ppb.

Sub A2

10        2. (deleted)

15        23. (amended) The cleaning solution according to claim 1, further containing water.

Sub A3

15        34. The cleaning solution according to claim 3, wherein the water is contained at a content of 5 to 20 wt%.

Sub A4

20        45. (amended) The cleaning solution according to any one of claims 1, 3, and 4, wherein the surfactant is contained at a content of 0.1 to 1.0 wt%.

Sub A5

25        56. The cleaning solution according to claim 5, wherein the surfactant contains fluorine.

Sub A6

25        67. (amended) The cleaning solution according to any one of claims 1, 3, and 6, wherein a total content of the N-methyl-2-pyrrolidone and ethylene glycol monobutyl ether is 80 to 90 wt%, and a ratio of a content of the N-methyl-2-pyrrolidone to the total

content of the N-methyl-2-pyrrolidone and ethylene glycol monobutyl ether is 0.75 to 0.95.

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8. (amended) A cleaning method for removing a byproduct derived from a decomposed substance of a process gas containing C and F, and deposited on a component in a process chamber of a semiconductor processing apparatus for subjecting a target substrate to a semiconductor process with the process gas,

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the method comprising the steps of:

removing the component from the process chamber;

and

dipping the component in a bath of a cleaning solution containing N-methyl-2-pyrrolidone, ethylene glycol monobutyl ether, and a surfactant.

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8. The cleaning method according to claim 8, wherein the component is dipped in the bath of the cleaning solution while the component is stored in a cage with 500 to 100 meshes.

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10. The cleaning method according to claim 8 or 9, wherein the component is dipped in the bath of the cleaning solution while a temperature of the cleaning solution is set at 50 to 80°C.

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10. The cleaning method according to any one of claims 8 to 10, wherein the semiconductor process comprises etching a layer consisting essentially of a silicon oxide on the target substrate by using the process gas.

*SUP A 1/2d  
or*

11~~12~~. (added) The cleaning method according to any one of claims 8 to 11, wherein an alkali metal content is less than 10 ppb.

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12~~13~~. (added) The cleaning method according to any one of claims 8 to 12, wherein, in the cleaning solution, a total content of the N-methyl-2-pyrrolidone and ethylene glycol monobutyl ether is 80 to 90 wt%, and a ratio of a content of the N-methyl-2-pyrrolidone to the total content of the N-methyl-2-pyrrolidone and ethylene glycol monobutyl ether is 0.75 to 0.95.

*add  
AS*